L11 ANSWER 1 OF 5 USPATFULL on STN
AN 2003:38409 USPATFULL
TI Methods and materials for the preparation and purification of halogenated hydrocarbons
IN Owens, Stephen, White Pine, TN, UNITED STATES
Jackson, Andrew, El Dorado, AR, UNITED STATES
Sharma, Vimal, El Dorado, AR, UNITED STATES
Cohn, Mitchel, West Lafayette, IN, UNITED STATES
Qian, John Cheng-Ping, West Lafayette, IN, UNITED STATES
Sacarias, Julia Ann, El Dorado, AR, UNITED STATES
Iikubo, Yuichi, West Lafayette, IN, UNITED STATES
PI US 2003028057 A1 20030206
AI US 2002-133551 A1 20020426 (10)
RLI Continuation of Ser. No. US 2001-909695, filed on 20 Jul 2001, ABANDONED
DT Utility
FS APPLICATION
LREP BAKER & DANIELS, 300 NORTH MERIDIAN STREET, SUITE 2700, INDIANAPOLIS, IN, 46204-1782
CLMN Number of Claims: 35
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 494
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods and materials are provided for the production and purification of halogenated compounds and intermediates in the production of 1,1,1,3,3-pentafluoropropane. In a preferred embodiment, the process steps include: (1) reacting carbon tetrachloride with vinyl chloride to produce 1,1,1,3,3-pentachloropropane; (2) dehydrochlorinating the 1,1,1,3,3-pentachloropropane with a Lewis acid catalyst to produce 1,1,3,3-tetrachloropropene; (3) fluorinating the 1,1,3,3-tetrachloropropene to produce 1-chloro-3,3,3-trifluoropropene; (4) fluorinating the 1-chloro-3,3,3-trifluoropropene to produce a product mixture containing 1,1,1,3,3-pentafluoropropane; and (5) separating 1,1,1,3,3-pentafluoropropane from by-products.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L11 ANSWER 2 OF 5 USPATFULL on STN
AN 2003:60323 USPATFULL
TI Preparation of 245fa
IN Elsheikh, Maher Y., Tredyffrin, PA, United States
Chen, Bin, Tredyffrin, PA, United States
PA Atofina Chemicals, Inc., Philadelphia, PA, United States (U.S. corporation)
PI US 6528691 B1 20030304
AI US 1999-312267 19990514 (9)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Siegel, Alan
LREP Mitchell, William D.
CLMN Number of Claims: 3
ECL Exemplary Claim: 1
DRWN 0 Drawing Figure(s); 0 Drawing Page(s)
LN.CNT 91
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A gas phase process for the preparation of 245fa is provided, wherein 1233zd is contacted with HF in the presence of a supported antimony catalyst.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L11 ANSWER 3 OF 5 USPATFULL on STN
AN 2002:283403 USPATFULL
TI Process for producing 1,1,1,3,3-pentafluoropropane

IN Yamamoto, Akinori, Settsu, JAPAN
Shibata, Noriaki, Settsu, JAPAN
Nakada, Tatsuo, Settsu, JAPAN
Shibanuma, Takashi, Settsu, JAPAN
PA Daikin Industries, Ltd., Osaka, JAPAN (non-U.S. corporation)
PI US 6472573 B1 20021029
WO 9948849 19990930
AI US 2000-601511 20000802 (9)
WO 1999-JP537 19990205
20000802 PCT 371 date
PRAI JP 1998-73626 19980323
DT Utility
FS GRANTED
EXNAM Primary Examiner: Siegel, Alan
LREP Armstrong, Westerman & Hattori, LLP
CLMN Number of Claims: 6
ECL Exemplary Claim: 1
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 463
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method of preparation for 1,1,1,3,3-pentafluoropropane (HFC-245fa) wherein the first process gives mainly 1,3,3,3-tetrafluoropropene (1234ze) by reacting 1-chloro-3, 3,3,-trifluoropropene (1233zd) with hydrogen fluoride in the gas phase and subsequently the second process gives 1,1,1,3,3-pentafluoropropane (HFC-245fa) by reacting 1,3,3,3-tetrafluoropropene (1234ze), separated as a component that does not contain hydrogen chloride from crude products obtained by the first process, with hydrogen fluoride in the gas phase. To provide a process that is capable of preparing economically HFC-245fa which does not require the separation of HFC-245fa and 1233zd.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L11 ANSWER 4 OF 5 USPATFULL on STN
AN 1999:48272 USPATFULL
TI Preparation of 1,1,1,3,3-pentafluoropropane
IN Elsheikh, Maher Y., Wayne, PA, United States
Bolmer, Michael S., Collegeville, PA, United States
Chen, Bin, Exton, PA, United States
PA Elf Atochem North America, Inc., Philadelphia, PA, United States (U.S. corporation)
PI US 5895825 19990420
AI US 1997-980747 19971201 (8)
DT Utility
FS Granted
EXNAM Primary Examiner: Siegel, Alan
CLMN Number of Claims: 5
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 234
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A process for the preparation of 245fa is provided, wherein 1233zd is first fluorinated to 1234ze, followed by fluorination of 1234ze to 245fa. 245fa is a known foam blowing agent and refrigerant.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L11 ANSWER 5 OF 5 USPATFULL on STN
AN 1998:115911 USPATFULL
TI Gas phase fluorination of 1230za
IN Elsheikh, Maher Y., Wayne, PA, United States
PA Elf Atochem North America, Inc., Philadelphia, PA, United States (U.S. corporation)
PI US 5811603 19980922

AI US 9807462 19971201 (8)
DT Utility
FS Granted
EXNAM Primary Examiner: Siegel, Alan
LREP Marcus, Stanley A., Mitchell, William D.
CLMN Number of Claims: 2
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 177
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A process for the fluorination of 1230za is provided, wherein 1230za is contacted with HF in the gas phase in the presence of an aluminum fluoride or chromium-based fluorination catalyst under conditions sufficient to produce a reaction mixture containing 1233zd, 1234ze and 245fa. 245fa is a known foam blowing agent and refrigerant, while 1233zd and 1234ze are known intermediates useful for preparing 245fa.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1
AN 2003:98042 CAPLUS
DN 138:139165
TI Methods and materials for the preparation and purification of halogenated hydrocarbons such as 1,1,1,3,3-pentafluoropropane
IN Owens, Stephen; Jackson, Andrew; Sharma, Vimal; Cohn, Mitchel; Qian, John Cheng-Ping; Sacarias, Julia Ann; Iikubo, Yuichi
PA USA
SO U.S. Pat. Appl. Publ., 6 pp., Cont. of U.S. Ser. No. 909,695, abandoned.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003028057	A1	20030206	US 2002-133551	20020426
PRAI US 2001-909695	B1	20010720		

AB Methods and materials are described for the prodn. and purifn. of halogenated compds. and intermediates in the prodn. of 1,1,1,3,3-pentafluoropropane which include: (1) reacting carbon tetrachloride with vinyl chloride to produce 1,1,1,3,3-pentachloropropane; (2) dehydrochlorinating the 1,1,1,3,3-pentachloropropane with a Lewis acid catalyst to produce 1,1,3,3-tetrachloropropene; (3) fluorinating the 1,1,3,3-tetrachloropropene to produce 1-chloro-3,3,3-trifluoropropene; (4) fluorinating the 1-chloro-3,3,3-trifluoropropene to produce a product mixt. contg. 1,1,1,3,3-pentafluoropropane; and (5) sepg. 1,1,1,3,3-pentafluoropropane from byproducts.

L13 ANSWER 2 OF 4 USPATFULL on STN
AN 2001:202853 USPATFULL
TI Process for preparing 1,1,1,3,3-pentafluoropropane
IN Nakada, Tatsuo, Settsu, Japan
Shibanuma, Takashi, Settsu, Japan
Akinori, Yamamoto, Settsu, Japan
PA Daikin Industries, Ltd., Osaka, Japan (non-U.S. corporation)
PI US 6316682 B1 20011113
WO 9745388 19971204
AI US 1998-194609 19981130 (9)
WO 1997-JP956 19970321
19981130 PCT 371 date
19981130 PCT 102(e) date
PRAI JP 1996-160776 19960531
DT Utility
FS GRANTED
EXNAM Primary Examiner: Siegel, Alan
LREP Armstrong, Westerman, Hattori, McLeland & Naughton LLP
CLMN Number of Claims: 6
ECL Exemplary Claim: 1
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 444
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method of producing 1,1,1,3,3-pentafluoropropane wherein 1,1,1,3,3-pentafluoropropane is obtained by reacting at least one selected from the group consisting of fluorinated and chlorinated propane and chlorinated propane expressed by a general formula of CX.sub.3 CH.sub.2 CHX.sub.2 (where X in this general formula indicates either a fluorine atom or a chlorine atom, but all of X's can never represent fluorine atoms at the same time) with a fluorinated antimony chloride. There is provided an economical and efficient method of producing 1,1,1,3,3-pentafluoropropane with high yield, which is an alternative compound to CFC's and HCFC's and is important in industry as a blowing agent, a refrigerant, a detergent, and a propellant that does not destroy the ozone in the ozone layer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2
AN 2000:351482 CAPLUS
DN 132:336106
TI **Azeotropic** composition comprising 1,1,1,3,3-pentafluoropropane and 1,1,1-trifluoro-3-chloro-2-propene, method of separation and purification of the same, and process for producing 1,1,1,3,3-pentafluoropropane and 1,1,1-trifluoro-3-chloro-2-propene
IN Nakada, Tatsuo; Imoto, Masayoshi; Shibanuma, Takashi
PA Daikin Industries, Ltd., Japan
SO PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000029361	A1	20000525	WO 1999-JP6255	19991110
W: JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1132365	A1	20010912	EP 1999-972198	19991110
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRAI JP 1998-323496	A	19981113		
WO 1999-JP6255	W	19991110		

AB A mixt. comprising at least 1,1,1,3,3-pentafluoropropane and 1,1,1-trifluoro-3-chloro-2-propene is subjected to a distn. step to give (at the top of the distn. tower) a distillate comprising an **azeotropic** compn. consisting substantially of 1,1,1,3,3-pentafluoropropane and 1,1,1-trifluoro-3-chloro-2-propene. The distillate obtained at the bottom of the distn. tower comprises a single pure compd. (either 1,1,1,3,3-pentafluoropropane or 1,1,1-trifluoro-3-chloro-2-propene).

L13 ANSWER 4 OF 4 USPATFULL on STN
AN 1998:7262 USPATFULL
TI Vapor phase process for making 1,1,1,3,3-pentafluoropropane and 1-chloro-3,3,3-trifluoropropene
IN Tung, Hsueh Sung, Erie County, NY, United States
PA AlliedSignal Inc., Morristown, NJ, United States (U.S. corporation)
PI US 5710352 19980120
AI US 1996-716013 19960919 (8)
DT Utility
FS Granted
EXNAM Primary Examiner: Siegel, Alan
LREP Gianneschi, Lois A., Friedenson, Jay P.
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 401
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method for the preparation of 1,1,1,3,3-pentafluoropropane (HFC-245fa) and 1-chloro-3,3,3-trifluoropropene (HCFC-1233). 1,1,1,3,3-pentachloropropane (HCC-240fa) is fluorinated with HF in a vapor phase in the presence of a vapor phase catalyst. The HCFC-1233 and any co-produced 1,3,3,3-tetrafluoropropene (HFC-1234) are recycled for further fluorination by HF for a greater than 99% HCC-240fa conversion.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 1 OF 15 USPATFULL on STN
AN 2003:47868 USPATFULL
TI Process for preparing fluorine-containing halogenated hydrocarbon compound
IN Takubo, Seiji, Osaka, JAPAN
Shibata, Noriaki, Osaka, JAPAN
Nakada, Tatsuo, Osaka, JAPAN
Shibanuma, Takashi, Osaka, JAPAN
PA Daikin Industries, Ltd., Osaka, JAPAN (non-U.S. corporation)
PI US 6521802 B1 20030218
WO 2000040151 20010607
AI US 2002-148415 20020529 (10)
WO 2000-JP8141 20001120
PRAI JP 1999-337759 19991129
DT Utility
FS GRANTED
EXNAM Primary Examiner: Siegel, Alan
LREP Birch, Stewart, Kolasch & Birch, LLP
CLMN Number of Claims: 7
ECL Exemplary Claim: 1
DRWN 0 Drawing Figure(s); 0 Drawing Page(s)
LN.CNT 1027
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides a process for preparing a fluorine-containing halogenated hydrocarbon compound by fluorinating, in a reaction field where an antimony halide compound represented by the general formula:

SbCl.sub.pF.sub.5-p (I)

wherein p is a value within a range from 0 to 2, and hydrogen fluoride and a halogenated hydrocarbon compound as a raw material exist, the halogenated hydrocarbon compound in a molar ratio of the antimony halide compound to hydrogen fluoride within a range from 40/60 to 90/10. According to this process, a fluorine-containing halogenated hydrocarbon compound (HFC), which is important as a substitute compound of CFC or HCFC, can be prepared economically advantageously with good selectivity while suppressing a corrosive action of a reaction vessel.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 2 OF 15 USPATFULL on STN
AN 2002:160919 USPATFULL
TI Method of treating 1,1,1,3,3-pentafluoropropane
IN Okamoto, Hidekazu, Kanagawa, JAPAN
Ohnishi, Keiichi, Kanagawa, JAPAN
PA Asahi Glass Company, Limited, Tokyo, JAPAN (non-U.S. corporation)
PI US 6414203 B1 20020702
WO 2001014295 20010301
AI US 2001-830061 20010509 (9)
WO 2000-JP5654 20000823
20010509 PCT 371 date
PRAI JP 1999-234980 19990823
DT Utility
FS GRANTED
EXNAM Primary Examiner: Siegel, Alan
LREP Oblon, Spivak, McClelland, Maier & Neustadt, P.C.
CLMN Number of Claims: 7
ECL Exemplary Claim: 1
DRWN 0 Drawing Figure(s); 0 Drawing Page(s)
LN.CNT 348
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method for reducing the content of unsaturated impurities contained in 1,1,1,3,3-pentafluoropropane (R245fa), while maintaining the loss of

R245fa at a minimum level. R245fa containing unsaturated impurities is contacted in a gas phase with chlorine gas in the presence of an activated carbon catalyst, thereby converting the unsaturated impurities to the chlorine addition compounds to reduce the content of the unsaturated impurities.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 3 OF 15 USPATFULL on STN
AN 2002:137207 USPATFULL
TI Process for producing 1,1,1,3,3-pentafluoro-propane and/or 1-chloro-3,3,3-trifluoropropene
IN Nakada, Tatsuo, Settsu, JAPAN
Shibanuma, Takashi, Settsu, JAPAN
Shibata, Noriaki, Settsu, JAPAN
PA Daikin Industries Ltd., Osaka, JAPAN (non-U.S. corporation)
PI US 6403847 B1 20020611
WO 2000017136 20000330
AI US 2001-787545 20010320 (9)
WO 1999-JP4243 19990804
20010320 PCT 371 date
PRAI JP 1998-267957 19980922
DT Utility
FS GRANTED
EXNAM Primary Examiner: Siegel, Alan
LREP Armstrong, Westerman & Hattori, LLP
CLMN Number of Claims: 8
ECL Exemplary Claim: 1
DRWN 0 Drawing Figure(s); 0 Drawing Page(s)
LN.CNT 390
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB One or more materials selected from 1,1,1,3,3-pentachloropropane, 1,1,3,3-tetrachloropropene and 1,3,3,3-tetrachloropropene are used as the specific materials described above. Before submitting the materials and HF to a fluorination reaction, almost all water is removed from them.

To continuously manufacture useful intended products efficiently as well as to prevent deactivation of the catalyst and the accumulation of organic substances with high boiling points when manufacturing said useful 1,1,1,3,3-pentafluoropropane and/or 1-chloro-3,3,3-trifluoropropene, by fluorinating the specific materials with HF in the presence of a catalyst.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1
AN 2001:152616 CAPLUS
DN 134:193124
TI Method for removing unsaturated impurities from 1,1,1,3,3-pentafluoropropane by chlorination
IN Okamoto, Hidekazu; Ohnishi, Keiichi
PA Asahi Glass Company, Limited, Japan
SO PCT Int. Appl., 13 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001014295	A1	20010301	WO 2000-JP5654	20000823

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV,

MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE,
SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA,
ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

JP 2001058967 A2 20010306 JP 1999-234980 19990823
EP 1125906 A1 20010822 EP 2000-954939 20000823
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO
US 6414203 B1 20020702 US 2001-830061 20010509
PRAI JP 1999-234980 A 19990823
WO 2000-JP5654 W 20000823

AB Described is a method of treatment by which the content of unsatd.-compd. impurities in 1,1,1,3,3-pentafluoropropane (R245fa) is reduced while minimizing the loss of R245fa. R245fa contg. unsatd. compds. as impurities is brought into contact with chlorine gas in a gas phase in the presence of an activated carbon catalyst to convert the unsatd. compds. to chlorine adducts. This process efficiently reduces the content of the impurities such as 1-chloro-3,3,3-trifluoropropene (R1233zd), 1,3,3,3-tetrafluoropropene (R1234ze), 1,2-dichloro-3,3,3-trifluoropropene (R1223x), 1-chloro-1,3,3,3-tetrafluoropropene (R1224zb), 2-chloro-1,3,3,3-tetrafluoropropene (R1224xe), and 2-chloro-3,3,3-trifluoroptopene (R1233xf) which are known to be present at a total of 300-20,000 ppm in 1,1,1,3,3-pentafluoropropane and are difficult to remove them by **distn**. Thus, Cl(g) at 100 mL/min was passed through an Inconel U tube (54 cm diam. .times. 600 cm length) packed with activated charcoal catalyst (shirasagi C2X, Takeda Chem. Industries, Ltd., Japan) in a oil bath at 200.degree. for 6 h, followed by feeding a mixt. of R245fa 99.100, R1234ze 0.124, R1233zd 0.544% (based on gas chromatog. area), and R235fa (chlorinated R245fa, not detected) at 300 mL/min and Cl(g) at 3 mL/min to contact the catalyst at 150.degree.. The product gas was passed through a water trap to remove the acid components to give a mixt. of R245fa 99.580, R1234ze 0.001, R1233zd (not detected) and R235fa 0.076%, recovering 980 g R235fa (99.9% purity).

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 5 OF 15 USPATFULL on STN
AN 2001:202852 USPATFULL
TI Method for producing 1,1,1,3,3-pentafluoropropane
IN Yoshikawa, Satoshi, Moroyama, Japan
Tamai, Ryouichi, Kamifukuoka, Japan
Sakyu, Fuyuhiko, Miyoshi, Japan
Hibino, Yasuo, Shiki, Japan
Gotoh, Yoshihiko, Miyoshi, Japan
PA Central Glass Company, Limited, Ube, Japan (non-U.S. corporation)
PI US 6316681 B1 20011113
AI US 1996-982803 19961204 (8)
PRAI JP 1996-47641 19960305
JP 1996-81557 19960403
DT Utility
FS GRANTED
EXNAM Primary Examiner: Siegel, Alan
LREP Crowell & Moring LLP
CLMN Number of Claims: 7
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 839
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to a method for producing 1,1,1,3,3-pentafluoropropane. This method includes a first step of fluorinating 1-chloro-3,3,3-trifluoropropene in a liquid phase by hydrogen fluoride in the presence of an antimony compound as a catalyst,

or a second step of fluorinating 1-chloro-3,3,3-trifluoropropene in a gas phase by hydrogen fluoride in the presence of a fluorination catalyst. If the first step is taken, 1,1,1,3,3-pentafluoropropane can be produced with a high yield. If the second step is taken, 1,1,1,3,3-pentafluoropropane can continuously be easily produced. Therefore, the second step is useful for an industrial scale production thereof. According to the invention, 1-chloro-3,3,3-trifluoropropene may be produced by a method including a step of reacting 1,1,1,3,3-pentachloropropane with hydrogen fluoride in a gas phase in the presence of a fluorination catalyst. This method is useful, because yield of 1-chloro-3,3,3-trifluoropropene is high.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 6 OF 15 USPATFULL on STN
AN 2001:33506 USPATFULL
TI Method for producing 1,1,1,3,3-pentafluoropropane
IN Yoshikawa, Satoshi, Moroyama, Japan
Tamai, Ryouichi, Kamifukuoka, Japan
Sakyu, Fuyuhiko, Miyoshi, Japan
Hibino, Yasuo, Shiki, Japan
Gotoh, Yoshihiko, Miyoshi, Japan
PA Central Glass Company, Limited, Ube, Japan (non-U.S. corporation)
PI US 6198010 B1 20010306
AI US 1998-166838 19981006 (9)
RLI Division of Ser. No. US 1996-982803, filed on 4 Dec 1996
PRAI JP 1996-47641 19960305
JP 1996-81557 19960403
DT Utility
FS Granted
EXNAM Primary Examiner: Siegel, Alan
LREP Evenson, McKeown, Edwards & Lenahan, P.L.L.C.
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 863
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to a method for producing 1,1,1,3,3-pentafluoropropane. This method includes a first step of fluorinating 1-chloro-3,3,3-trifluoropropene in a liquid phase by hydrogen fluoride in the presence of an antimony compound as a catalyst, or a second step of fluorinating 1-chloro-3,3,3-trifluoropropene in a gas phase by hydrogen fluoride in the presence of a fluorination catalyst. If the first step is taken, 1,1,1,3,3-pentafluoropropane can be produced with a high yield. If the second step is taken, 1,1,1,3,3-pentafluoropropane can continuously be easily produced. Therefore, the second step is useful for an industrial scale production thereof. According to the invention, 1-chloro-3,3,3-trifluoropropene may be produced by a method including a step of reacting 1,1,1,3,3-pentachloropropane with hydrogen fluoride in a gas phase in the presence of a fluorination catalyst. This method is useful, because yield of 1-chloro-3,3,3-trifluoropropene is high.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 7 OF 15 USPATFULL on STN
AN 2000:77497 USPATFULL
TI Purification of 1,1,1,3,3-pentafluoropropane (R-245fa)
IN Yates, Stephen Frederic, Cook County, IL, United States
Gaita, Romulus, Cook County, IL, United States
PA Allied Signal Inc., Morristown, NJ, United States (U.S. corporation)
PI US 6077982 20000620
AI US 1998-123381 19980727 (9)
RLI Continuation-in-part of Ser. No. US 1996-628064, filed on 4 Apr 1996,

now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Siegel, Alan
LREP Friendenson, Jay P., Collazo, Marie L.
CLMN Number of Claims: 12
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 409
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB In the synthesis of 1,1,1,3,3-pentafluoropropane (R-245fa), a mixture of R-245fa and the impurity 1-chloro-3,3,3-trifluoropropene (R-1233zd) is purified and R-1233zd is removed from the mixture by contacting the mixture with 1-5 mols of chlorine for each mol of R-1233zd in the presence of ultraviolet light having a wavelength between about 300 to 400 nm which provides at least 0.02 watts-hour/kg of the mixture, the R-1233zd being reduced to below 10 wt. ppm or lower, as it is converted to 1,2,2-trichloro-3,3,3-trifluoropropane (R-233) or other propane which contains more chlorine and which has a higher boiling point than R-245fa and can be separated easily from R-245fa, the photochlorination being effected in a manner such that at least about 96 wt. % of the starting amount of R-245fa is maintained in the mixture.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 8 OF 15 USPATFULL on STN
AN 2000:15780 USPATFULL
TI Liquid phase catalytic fluorination of hydrochlorocarbon and hydrochlorofluorocarbon
IN Thenappan, Alagappan, Cheektowaga, NY, United States
Tung, Hsueh S., Getzville, NY, United States
Bell, Robert L., Amherst, NY, United States
PA AlliedSignal, Inc., Morristown, NJ, United States (U.S. corporation)
PI US 6023004 20000208
AI US 1996-744157 19961112 (8)
DT Utility
FS Granted
EXNAM Primary Examiner: Siegel, Alan
LREP Friedenson, Jay P., Collazo, Marie
CLMN Number of Claims: 5
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 519
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A process for the catalytic fluorination of hydrochlorocarbons and hydrochlorofluorocarbons in the liquid phase. The process is useful for fluorinating hydrochloropropanes, hydrochlorofluoropropanes, hydrochloropropenes and hydrochlorofluoropropenes and most particularly useful for fluorinating 1,1,1,3,3-pentachloropropane to 1,1,1,3,3-pentafloropropane. Suitable catalysts include (i) a pentavalent molybdenum halide; (ii) a tetravalent tin halide; (iii) a tetravalent titanium halide; (iv) a mixture of a pentavalent tantalum halide with a tetravalent tin halide; (v) a mixture of a pentavalent tantalum halide with a tetravalent titanium halide; (vi) a mixture of a pentavalent niobium halide with a tetravalent tin halide; (vii) a mixture of a pentavalent niobium halide with a tetravalent titanium halide; (viii) a mixture of a pentavalent antimony halide with a tetravalent tin halide; (ix) a mixture of a pentavalent antimony halide with a tetravalent titanium halide; (x) a mixture of a pentavalent molybdenum halide with a tetravalent tin halide; (xi) a mixture of a pentavalent molybdenum halide with a tetravalent titanium halide and (xii) a mixture of a pentavalent antimony halide with a trivalent antimony halide. Products of this process are useful in a variety of applications including solvents, blowing agents, and refrigerants.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 9 OF 15 USPATFULL on STN
AN 2000:10073 USPATFULL
TI Process for producing 1,1,1,3,3-pentafluoropropane
IN Nakada, Tatsuo, Settsu, Japan
Aoyama, Hirokazu, Settsu, Japan
Yamamoto, Akinori, Settsu, Japan
PA Daikin Industries Ltd., Osaka, Japan (non-U.S. corporation)
PI US 6018084 20000125
WO 9724307 19970710
AI US 1998-91820 19980625 (9)
WO 1996-JP2942 19961008
19980625 PCT 371 date
19980625 PCT 102(e) date
PRAI JP 1995-354118 19951229
DT Utility
FS Granted
EXNAM Primary Examiner: Peselev, Elli
LREP Armstrong, Westerman, Hattori, McLeland & Naughton
CLMN Number of Claims: 2
ECL Exemplary Claim: 1
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 311

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A manufacturing method for 1,1,1,3,3-pentafluoropropane comprises a first process, in which 1,1,1-trifluoro-3-chloro-2-propene is obtained by inducing a reaction between 1,1,1,3,3-pentafluoropropane and hydrogen fluoride in the vapor phase, and a second process, in which the 1,1,1,3,3-pentafluoropropane is obtained by inducing a reaction between 1,1,1-trifluoro-3-chloro-2-propene and hydrogen in the vapor phase, and 1,1,1-trifluoro-3-chloro-2-propene obtained in the first process is supplied to the second process after removing the HCl by-products. This invention can provide a new economic manufacturing method of 1,1,1,3,3-pentafluoropropane with high yield and selectivity.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 10 OF 15 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2
AN 1999:273587 CAPLUS
DN 130:268843
TI Two-step process for the preparation of 1,1,1,3,3-pentafluoropropane from 1,1,1-trifluoro-3-chloro-2-propene
IN Elsheikh, Maher Y.; Bolmer, Michael S.; Chen, Bin
PA Elf Atochem North America, Inc., USA
SO U.S., 3 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5895825	A	19990420	US 1997-980747	19971201
	EP 919529	A1	19990602	EP 1998-309797	19981130
	EP 919529	B1	20011010		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 11228461	A2	19990824	JP 1998-339093	19981130
	MX 9810077	A	20000831	MX 1998-10077	19981130
	ES 2163236	T3	20020116	ES 1998-309797	19981130
	CN 1221722	A	19990707	CN 1998-123057	19981201
PRAI	US 1997-980747	A	19971201		

AB A process for prepg. 1,1,1,3,3-pentafluoropropane (I), a blowing agent and refrigerant (no data), comprises: (A) fluorinating 1,1,1-trifluoro-3-chloro-2-propene with hydrogen fluoride in a first reaction zone to produce a mixt. contg. 1,1,1,3-tetrafluoro-2-propene (II); and (B) sepg. the 1,1,1,3-tetrafluoro-2-propene from the reaction mixt. and hydrofluorinating it with hydrogen fluoride in a second reaction zone to I. The process advantages are that the II intermediate has a b.p. 35.degree. lower than that of 1,1,1-trifluoro-3-chloro-2-propene so that it can be readily sepd. from I via **distn**. Further, II readily reacts with HF, so that large excesses of HF are not required in step B, again simplifying recovery.

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 11 OF 15 USPATFULL on STN
AN 1999:102352 USPATFULL
TI Process for photochlorination
IN Boyce, C. Bradford, Baton Rouge, LA, United States
PA LaRoche Industries, Inc., Atlanta, GA, United States (U.S. corporation)
PI US 5944962 19990831
AI US 1998-18322 19980203 (9)
RLI Continuation-in-part of Ser. No. US 1995-537355, filed on 3 Oct 1995, now patented, Pat. No. US 5750010
DT Utility
FS Granted
EXNAM Primary Examiner: Gorgos, Kathryn; Assistant Examiner: Wong, Edna

LREP Hammond, Richard J.
CLMN Number of Claims: 6
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 556
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB An improvement in the process for the photochlorination of liquid mixtures of 2 to 6 carbon-containing aliphatic hydrofluorohalocarbons or hydrofluorocarbons and unsaturated hydrocarbons with ultraviolet light is disclosed. The improvement comprises using ultraviolet light emitted from an ultraviolet light source that delivers from about 0.01 to about 0.10 Einsteins per inch of arc at an input power of from about 0.50 to about 4.0 watts per inch of arc at a wavelength that is substantially the same as the wavelength absorption band of chlorine.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 3
AN 1998:62263 CAPLUS
DN 128:90318
TI Vapor-phase fluorination process and catalysts for the manufacture of 1,1,1,3,3-pentafluoropropane
IN Tung, Hsueh Sung
PA Alliedsignal Inc., USA
SO U.S., 5 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5710352	A	19980120	US 1996-716013	19960919
	WO 9812161	A1	19980326	WO 1997-US16966	19970919
	W: JP, KR				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 931043	A1	19990728	EP 1997-942663	19970919
	EP 931043	B1	20030813		
	R: DE, ES, FR, GB, IT, NL				
	JP 2001500882	T2	20010123	JP 1998-514990	19970919
	JP 3393142	B2	20030407		
PRAI	US 1996-716013	A	19960919		
	WO 1997-US16966	W	19970919		

AB In the title process, 1,1,1,3,3-pentafluoropropane (HFC-245fa) is prepd. by the vapor-phase fluorination of 1,1,1,3,3-pentachloropropane (HCC-240fa) with HF in the presence of a Group IVB or VB metal halide catalyst. The byproducts, 1-chloro-3,3,3-trifluoropropene and 1,3,3,3-tetrafluoropropene, are **distd**. from the HFC-245fa and recycled for further HF fluorination thus producing a >99% HCC-240fa conversion. The title vapor-phase fluorination process is less corrosive than a comparable liq.-phase process.
RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 13 OF 15 USPATFULL on STN
AN 97:101968 USPATFULL
TI Process for preparing fluorinated aliphatic compounds
IN Boyce, C. Bradford, Baton Rouge, LA, United States
Belter, Randolph Kenneth, Zachary, LA, United States
PA LaRoche Industries Inc., Atlanta, GA, United States (U.S. corporation)
PI US 5684219 19971104
AI US 1996-740985 19961105 (8)
RLI Continuation of Ser. No. US 1995-519779, filed on 28 Aug 1995, now patented, Pat. No. US 5616819
DT Utility

FS Granted
EXNAM Primary Examiner: Siegel, Alan
LREP Hammond, Richard J.
CLMN Number of Claims: 12
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 495
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A process is disclosed for the preparation of a fluorinated aliphatic olefin having the formula

CH.sub.a F.sub.3-a --CH.sub.2 --CH.sub.b F.sub.3-b

wherein a is 0 or the integer 1 or d and b is 0 or the integer 1, 2 or 3.

In the first step of the process, a chlorinated olefinic hydrocarbon of the formula

CH.sub.c Cl.sub.2-c .dbd.CH--CH.sub.d Cl.sub.3-d

wherein c is 0 or the integer 1 and d is 0 or the integer 1 or 2 is reacted with anhydrous hydrogen fluoride for a period of time and at a temperature sufficient to form a chlorofluoro olefin of the formula

CH.sub.e Cl.sub.2-e .dbd.CH--CH.sub.f F.sub.3-f

wherein e is 0 or the integer 1 and f is 0 or the integer 1 or 2.

The chlorofluoro olefin produced in the first step is then reacted with anhydrous hydrogen fluoride in a second reaction. This second reaction is catalyzed with at least one compound that is a metal oxide or metal halide. Mixtures of said metal oxides, metal halides and metal oxides with metal halides may also be used. The metallic part of such compound is arsenic, antimony, tin, boron or is selected from a metal in Group IVb, Vb. VIb. VIIb or VIIIb of the Periodic Table of the Elements.

The desired fluorinated aliphatic hydrocarbon is subsequently separated and recovered.

The process is particularly suitable for the preparation of 1,1,1,3,3-pentafluoropropane.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 14 OF 15 USPATFULL on STN
AN 97:27404 USPATFULL
TI Process for preparing fluorinated aliphatic compounds
IN Boyce, C. Bradford, Baton Rouge, LA, United States
Belter, Randolph K., Zachary, LA, United States
PA LaRoche Industries Inc., Atlanta, GA, United States (U.S. corporation)
PI US 5616819 19970401
AI US 1995-519779 19950828 (8)
DT Utility
FS Granted
EXNAM Primary Examiner: Siegel, Alan
LREP Hammond, Richard J.
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 507
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A process is disclosed for the preparation of a fluorinated aliphatic olefin having the formula

CH.sub.a F.sub.3-a --CH.sub.2 --CH.sub.b F.sub.3-b

wherein a is 0 or the integer 1 or 2 and b is 0 or the integer 1, 2 or 3.

In the first step of the process, a chlorinated olefinic hydrocarbon of the formula

CH.sub.c Cl.sub.2-c .dbd.CH--CH.sub.d Cl.sub.3-d

wherein c is 0 or the integer 1 and d is 0 or the integer 1 or 2 is reacted with anhydrous hydrogen fluoride for a period of time and at a temperature sufficient to form a chlorofluoro olefin of the formula

CH.sub.e Cl.sub.2-e .dbd.CH--CH.sub.f F.sub.3-f

wherein e is 0 or the integer 1 and f is 0 or the integer 1 or 2.

The chlorofluoro olefin produced in the first step is then reacted with anhydrous hydrogen fluoride in a second reaction. This second reaction is catalyzed with at least one compound that is a metal oxide or metal halide. Mixtures of said metal oxides, metal halides and metal oxides with metal halides may also be used. The metallic part of such compound is arsenic, antimony, tin, boron or is selected from a metal in Group IVb, Vb. VIb. VIIb or VIIIb of the Periodic Table of the Elements.

The desired fluorinated aliphatic hydrocarbon is subsequently separated and recovered.

The process is particularly suitable for the preparation of 1,1,1,3,3-pentafluoropropane.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 4
AN 1996:605544 CAPLUS
DN 125:247193
TI Method of producing pentachloropropane and pentafluoropropane
IN Tamai, Ryoichi; Yoshikawa, Satoshi; Sakyu, Fuyuhiko; Hibino, Yasuo
PA Central Glass Company, Limited, Japan
SO Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 729932	A1	19960904	EP 1996-103220	19960301
	R: DE, FR, GB, IT				
	JP 08239333	A2	19960917	JP 1995-44093	19950303
	JP 3456605	B2	20031014		
	JP 08239334	A2	19960917	JP 1995-44094	19950303
PRAI	JP 1995-44093	A	19950303		
	JP 1995-44094	A	19950303		

OS CASREACT 125:247193
AB The invention relates to a method of producing 1,1,1,3,3-pentachloropropane (I), and a method of producing 1,1,1,3,3-pentafluoropropane (II) from I. In the first method, CCl4 reacts with vinyl chloride in an aprotic polar org. solvent, in the presence of a catalyst contg. elemental Fe, and an optional metal salt promoter. In the second method, I is fluorinated with HF in the liq. phase, in the presence of an Sb-contg. catalyst. In both methods, the products are prepd. in high yield on an industrial scale. For example, CCl4 reacted with vinyl

chloride in MeCN, in the presence of Fe plates and NiCl2 promoter, at 100.degree. and 2.5-3 kg/cm2 in an autoclave. Workup and **distn.** gave I in 87% yield, plus 2 minor chlorinated byproducts. Fluorination of I with HF in the presence of SbCl5, in an autoclave at 60.degree. and 8 kg/cm2, gave II with 100% conversion and 97.9% selectivity.

(FILE 'HOME' ENTERED AT 12:16:00 ON 28 OCT 2003)

FILE 'REGISTRY' ENTERED AT 12:16:17 ON 28 OCT 2003

L1 1 S 1,1,1,3,3-PENTAFLUOROPROPANE/CN
L2 0 S 1,1,1-TRIFLUORO-3-CHLORO-2-PROPENE/CN
L3 0 S 1,1,1-TRIFLUORO-3-CHLOROPROPENE/CN
L4 0 S 3-CHLORO-1,1,1-TRIFLUOROPROPENE/CN
L5 1 S 1-CHLORO-3,3,3-TRIFLUOROPROPENE/CN

FILE 'CAPLUS, USPATFULL, CA' ENTERED AT 12:19:45 ON 28 OCT 2003

L6 1117 S L1
L7 152 S L5
L8 100 S L6 AND L7
L9 11 S L8 AND AZEOTROP?
L10 5 S L9 AND MOLAR RATIO
L11 5 DUP REM L10 (0 DUPLICATES REMOVED)
L12 6 S L9 NOT L11
L13 4 DUP REM L12 (2 DUPLICATES REMOVED)
L14 30 S L8 AND DISTILL?
L15 19 S L14 NOT L9
L16 15 DUP REM L15 (4 DUPLICATES REMOVED)
L17 12 S L16 AND HYDROGEN FLUORIDE